

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. to 32. (Cancelled)

33. (Previously Presented) A method for preventing hypotension in a mammalian patient whose blood is being withdrawn, treated in an extracorporeal blood circuit having an osmotic measurement device comprising a blood chamber, a filtrate chamber and a permeable membrane separating the blood and filtrate chambers, said method comprising:

- a. withdrawing blood from the patient into the extracorporeal blood circuit, condensing the blood by removing fluid from the blood using a filter in the blood circuit, and infusing the condensed blood to the patient;
- b. isolating the filtrate chamber from fluid flow other than from flow through the permeable membrane while flowing blood from the blood circuit through the blood chamber;
- c. measuring a pressure difference across the permeable membrane to measure an osmotic pressure level, and
- d. adjusting a rate of removal of the fluid from the blood in the filter, if the measured osmotic pressure level varies from a predetermined osmotic pressure setting.

34. (Previously Presented) A method for preventing hypotension as in claim 33 wherein the filtrate chamber is filled with plasma water prior to step (b).

35. (Previously Presented) A method for preventing hypotension as in claim 33 wherein the pressure difference is measured by a differential pressure sensor monitoring a fluid pressure in the filtrate chamber and the blood chamber.

36. (Previously Presented) A method for preventing hypotension as in claim 33 wherein the filter is a hemodialysis filter.

37. (Previously Presented) A method for preventing hypotension as in claim 33 wherein the osmotic pressure setting is a maximum osmotic pressure level.

38. (Previously Presented) A method for preventing hypotension as in claim 37 wherein the maximum osmotic pressure setting is a sum of a osmotic pressure level determined during an initial phase of treating the blood in the circuit and a predetermined delta osmotic pressure level.

39. (Previously Presented) A method for preventing hypotension as in claim 38 wherein the predetermined delta osmotic pressure level is selected by an operator.

40. (Previously Presented) A method for preventing hypotension as in claim 38 wherein the predetermined delta osmotic pressure level is a level no greater than twenty percent greater than the determined initial osmotic pressure

41. (Previously Presented) A method for preventing hypotension as in claim 33 wherein the osmotic pressure setting is selected by an operator.

42. to 49. (Cancelled).

50. (Previously Presented) A method for preventing hypotension in a mammalian patient whose blood is being withdrawn, treated in an extracorporeal blood circuit and infused into the patient, said method comprising:

a. monitoring an osmotic pressure difference between the blood and a filtrate across a permeable membrane in a blood treatment device in the circuit, wherein the osmotic pressure difference is determined after removal of the filtrate through the membrane is temporarily stopped followed shortly by temporarily stopping the blood flow through the circuit, and

b. adjusting a rate of removal of the filtrate through the permeable membrane in the circuit if the osmotic pressure difference varies from a predetermined osmotic pressure difference.

51. (Previously Presented) A method for preventing hypotension in a mammalian patient whose blood is being withdrawn, treated in an extracorporeal blood circuit and infused into the patient, said method comprising:

a. monitoring an osmotic pressure difference between the blood and a filtrate across a permeable membrane in a blood treatment device in the circuit, wherein the osmotic pressure is monitored while blood flow through the circuit is temporarily stopped, and

b. adjusting a rate of removal of the filtrate through the permeable membrane in the circuit if the osmotic pressure difference varies from a predetermined osmotic pressure difference.

52. (Previously Presented) A method for preventing hypotension as in claim 51 wherein the osmotic pressure is monitored during a temporary cessation of filtration of fluids from blood flowing through the blood circuit.

53. (Previously Presented) A method for preventing hypotension as in claim 51 wherein the osmotic pressure is periodically monitored during a temporary cessation in blood flow through the blood circuit and a temporary cessation of filtrate flow from the circuit.

54. (Cancelled)

55. (Previously Presented) A method of controlling an extracorporeal blood circuit comprising:

- a. withdrawing blood from a withdrawal blood vessel in a patient into the extracorporeal circuit;
- b. filtering fluids from blood flowing through the circuit at a controlled filtration rate;
- c. measuring osmotic pressure in the circuit, wherein the osmotic pressure is measured while the blood flow through the filter is temporarily ceased, and
- d. reducing the filtration flow rate if the measured osmotic pressure exceeds a threshold osmotic pressure level.

56. (Previously Presented) A method of controlling an extracorporeal blood circuit comprising:

- a. withdrawing blood from a withdrawal blood vessel in a patient into the extracorporeal circuit;
- b. filtering fluids from blood flowing through the circuit at a controlled filtration rate;
- c. measuring osmotic pressure in the circuit, wherein the osmotic pressure is measured while the blood flow through the filter and the removal of fluids from the blood are temporarily ceased, and
- d. reducing the filtration flow rate if the measured osmotic pressure exceeds a threshold osmotic pressure level.

57. (Previously Presented) A method of controlling an extracorporeal blood circuit comprising:

- a. withdrawing blood from a withdrawal blood vessel in a patient into the extracorporeal circuit;
- b. filtering fluids from blood flowing through the circuit at a controlled filtration rate;
- c. measuring osmotic pressure in the circuit, wherein the osmotic pressure is measured in a section of the circuit in which blood flow has been temporarily stopped, and

d. reducing the filtration flow rate if the measured osmotic pressure exceeds a threshold osmotic pressure level.

58. (Previously Presented) A method of controlling an extracorporeal blood circuit as in claim 57 wherein the section of the circuit is isolated from a section of the circuit withdrawing blood from the patient while the blood flow is temporarily stopped.

59. (Previously Presented) A method of controlling an extracorporeal blood circuit as in claim 56 wherein the section of the circuit is isolated from a section of the circuit withdrawing blood from the patient while the blood flow is temporarily stopped.

60. to 72. (Cancelled).